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COMMON POULTRY DISEASES

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COMMON POULTRY DISEASES

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Most poultry raisers have more or less trouble with some of the commoner ailments of chickens. This short discussion is given with the hope that a better understanding may be had of these diseases.

First and foremost it is well to keep in mind that the individual treatment of sick birds does not pay. Unfortunately there are few, if any, specific cures for the diseases of poultry. If we can secure a clearer idea of what the disease is and its nature it is not difficult to prevent severe losses. At any rate, medication or drugging a flock does not seem to help much. Such diseases as tuberculosis, fowl cholera, roup, and blackhead in both turkeys and chickens are contagious and at the present time we know of no medicine which will bring about the cure of a sick bird. However, if we know more about these common diseases—if we know the symptoms and what to look for when we examine one which has died—then we can proceed intelligently to stop further losses.

On the other hand, if we just think it's this, that or the other disease and do not understand how it spreads, not much can be done.

Open the Dead Ones

When a hen dies do not immediately consign it to the manure pile or spreader or leave it to rot in the hen yard. There are few, if any, diseases which can be recognized by looking at a live, sick bird. Therefore, it is best to give it a careful post-mortem examination and try to discover the cause. Open the bird and examine the internal organs for evidence of disease. Consult this or other bulletins on chicken diseases and compare notes. Look at the liver, spleen, and intestines especially. The spleen is that little round body about the size of a marble and is located directly under the liver. It is usually the same color as the liver. If you cannot find anything suspicious here, open the gizzard and look for match heads, tacks, etc., Figure 1. Take out the intestines and string them out full length and with a pair of scissors rip them open and look for round worms or tapeworms. You won't be able to make an intelligent guess any other way, and lest I forget—keep this in mind—**there is no disease called "bowel trouble."** This term is usually used to describe a bird which has a diarrhea. Several of the common diseases give the symptoms of diarrhea, but that in itself will not definitely tell you what the disease is. For

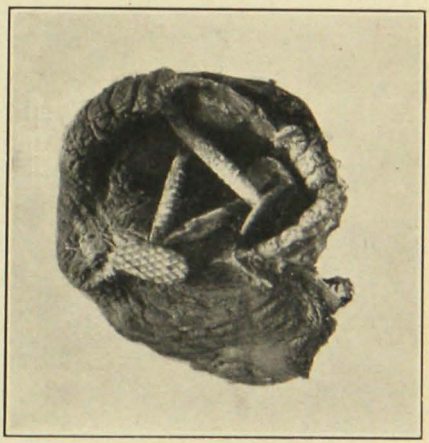

Figure 1. This picture shows the inside of a chicken's gizzard. Note the large flat headed tacks. Firecrackers, nails, and money have also been found.

example, birds affected with tuberculosis, blackhead and coccidiosis often have a diarrhea or "bowel trouble," but this one symptom alone is not sufficient to determine the disease. Remember this—**bowel trouble** is a symptom of several diseases and not a specific disease in itself. Another thing to keep in mind is not to put too much stress on the color of the droppings. This is influenced largely by the diet of the bird. In some instances it is stained with blood, but if fresh, this is easily recognized.

The Hen's Appendix

You will hear the word caecum, or blind gut, used a great deal. This is the hen's appendix. It really is a blind gut and is seen as two blind sacs leading off the lower portion of the intestine. This organ is about as useful as our own appendix. If you are examining a fowl for blackhead or coccidiosis, this is an important place to examine. Open the mouth cavity and look carefully for signs of yellow, cheesy masses, indicating the presence of roup or diphtheria or canker, as it is commonly called.

I hope by these suggestions the reader will be induced to open dead birds as a safe and sane means of diagnosis. All the talk or literature in the world descriptive of chicken tuberculosis is useless if you don't open one and look for the spots on liver, etc. It is a wonderful aid to a diagnosis and let's use it. If you are too fastidious and do not like to soil the fingers, send the dead birds in to the Veterinary Division, University Farm, St. Paul. Here they will be examined free. The writer has had considerable experience with diseases of poultry and wouldn't think of making a guess at a disease without having seen the inside of the carcass.

AVIAN TUBERCULOSIS

Poultry tuberculosis is the most widespread of all diseases in this state. It is also the easiest to recognize, and there is little excuse for anyone to pass it by.

How the Disease Spreads

The germ causing this disease can only be seen under the microscope. Since the liver, spleen and intestines are the organs commonly affected and as the organs empty into the intestines, the droppings which pass from the birds contain millions of these minute germs. In this way, the soil and floor of the chicken house become laden with infection and the disease is easily picked up by healthy birds. It is generally believed that poultry do not become infected from cattle or hogs but this is not definitely known. Birds dead of tuberculosis should be burned, for the carcass may be a source of infection to the others. It may be also that certain of our wild birds carry infection from flock to flock.

Symptoms

The internal organs are the ones usually affected. Soon after infection the birds are noted to be falling off in their appetite and appear listless. Their movements are slow and they are easily caught. As the disease progresses, the comb and wattles may become pale in color. Diarrhea may be noted at this stage and this continues until the end. The bird now becomes very thin and there are little or no breast muscles in some cases. The breast bone is easily felt. The average handler of poultry usually speaks of this condition as "going light." If a bird showing these symptoms dies or is killed, the liver is found to be much enlarged and dotted with yellowish-white spots of varying size and number, Figure 2. These spots may be found on intestines in the form of yellowish lumps. The spleen, the small, round organ located under the liver, may also contain these spots. If birds show the above combination of physical signs and appear inside as described, one can be practically sure of the presence of tuberculosis.

Method of Control or Eradication

It is of absolutely no use to attempt the treatment of sick birds with any sort of medicine or patented poultry tonics. Preparations which guarantee to cure this disease are frauds. Once the bird has the infections, there is no cure. All efforts should be directed to prevent other healthy ones from contracting it. There are two ways in which the disease may be eradicated. First, if the flock is small and not of great value, and if several birds have died or are affected, it would probably be best to destroy the whole flock and start over again. Second, if the flock is standard bred or otherwise valuable, it can be tested in much the

Figure 2. This is a photograph of a tuberculous fowl. The liver is enlarged and spotted. This illustration also shows the proper way to open a dead bird.

same way that cattle are tested for tuberculosis. The test is best applied by a veterinarian and works splendidly. Figure 3 shows a diseased bird which has reacted to the test. Notice the swollen wattle.

See that the house is well scrubbed out with any good disinfectant and whitewash the walls, etc. If the floor of the house is of dirt, remove about six inches and bury it out of the way. Resurface with fresh, clean soil. If the floor is well made of either concrete, tile or wood, soak thoroly with disinfectant. If the floor is not of good material or is hard to clean, lay a new one over the old. Turn over the soil in the runs. Boil drinking cups and cleanse all other utensils. If this is well done, secure new birds, being very careful to purchase them from a flock which is free from the disease.

Avian, or chicken tuberculosis, spreads chiefly through the droppings, from one bird to another. The eggs seldom contain the germ, and since they are cooked, no fear need be felt if one is eaten. As a rule, the disease is not transmitted to little chicks through the hatching eggs. Most of them become infected later on when they have access to the infected soil of the poultry yards.

Figure 3. This bird has been tested. The wattle at your left is greatly enlarged. This means that the bird is affected with tuberculosis.

ROUP

Roup is a very common, specific, infectious disease. It first shows itself as a slight cold in the head. The birds are noticed to sneeze and there is a discharge from the eyes and nose. Following this, the eyes become swollen and the eyelids are glued together. The eye now bulges out, Figure 4. The throat and upper part of the mouth may become affected also, causing them to make a rattling sound at every breath. When affected this way, the birds often become blind and suffocate. Roup is very difficult to handle after it gets a good start. The ideal thing to do would be to destroy the first sick bird

Figure 4. This is an example of roup. The eye is glued together and bulging. Cases of this kind are best destroyed as the treatment is too tedious. Be sure to examine the throat also for cheesy growths.

and remove the others from the houses, but this is usually impossible. The treatment of roup with medicines has never been entirely satisfactory. As soon as the disease is found to exist, the sick ones should be destroyed or removed at some distance from the rest of the flock. Figure 5. The houses should be whitewashed and all the drinking and feeding dishes scalded with boiling water. Potassium permanganate is good. Enough of this should be added to the drinking water to give it a wine color. Refresh this two or three times daily.

FOWL CHOLERA

Fowl cholera is the most fatal of all chicken diseases. It also affects geese and turkeys. Outbreaks often occur in those flocks which are in fine condition. It also occurs in flocks of geese which are being heavily fed for market. The birds die rapidly and in great numbers. They show little or no symptoms before death. The first sign of trouble is the finding of several dead birds under the roosts in the morning. This happens so suddenly and without warning that the owner often thinks they have been poisoned.

In cholera, the post-mortem examination alone is not sufficient. You must have known the previous history of several birds dying suddenly. The heart, liver and intestines show evidence of congestion or inflammation. The blood vessels stand out noticeably. To be certain of the disease, send a sick or dead bird to the University for a laboratory examination.

There is no medicine of any value in the treatment of the sick birds. All efforts should be directed to keep the disease from spreading. Destroy the sick ones at once for they seldom recover. Disinfect the houses and sterilize the drinking and feeding utensils. Since those flocks in the best of condition are often the first to be attacked, it has been found to be beneficial to cut the feed ration in half. This alone has often stopped outbreaks. It is useless to vaccinate a flock

Figure 5. This picture shows a young bird affected with roup. The eye is glued shut and covered with a large scab.

against fowl cholera. Strict sanitary measures are the only things of value in the control of this disease.

BLACKHEAD

Blackhead is a disease of turkeys, but sometimes affects chickens when they are raised on the same premises. It is caused by a parasite which probably enters the body through food or water and multiplies in the intestines of the fowl. This parasite lives in the soil and once a farm becomes infested, it may be many years before the disease can be stamped out.

Do not expect the head to turn black. The disease is poorly named. It is called blackhead because the veins about the head sometimes become so filled with blood as to make the head appear black. In some parts of the United States, the losses have been so great as to force the turkey raiser out of business. The disease is often brought into a healthy flock through the purchase of a bird from another flock which has the disease. It is sometimes stated that damp weather and rains cause this disease. This is not true. The parasite, and not the weather, is the true cause. To make sure that your birds are dying of blackhead, it is necessary that you examine the internal organs carefully, Figure 6. If the turkey has this disease, the liver will be found to contain many greenish-yellow spots on the surface. They look much like a rotten spot in an apple. The caecum, or blind gut, is also affected and shows signs of an intense inflammation, and is often filled with greenish-yellow, cheesy mass. Either one or both places may be affected in very young birds a few days or weeks old. The caecum appears to change first.

While no treatment is recommended, it must be kept in mind that the short caecum worm acts as a carrier of the blackhead parasite. We therefore suggest the treatment of birds for worms. This is best handled by using tobacco dust containing not less than one per cent of nicotine sulphate. The dose is one pound for each 100 birds, preceded by 24 to 36 hours of starvation.

It is much easier to prevent blackhead than to cure it. Be careful when you purchase new stock and try to learn if they are from healthy flocks.

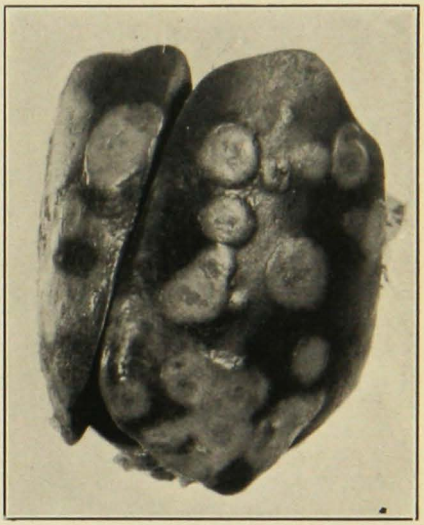

Figure 6. This liver shows blackhead disease of both chickens and turkeys. Learn to distinguish from tuberculosis.

This is a soil-borne disease and once a farm becomes infected, extraordinary precautions must be taken.

If more information on this disease is desired, complete bulletins will be gladly furnished.

INFECTIOUS WHITE DIARRHEA

This is a very acute and fatal disease of young chicks. The disease sometimes occurs in adult fowls, but rarely causes death. The ovaries of the infected old hen harbor the germs and she simply serves as a carrier and every egg she lays may contain the germs of this disease.

It is well to keep in mind that all diarrheas of chicks are not of an infectious nature. A great many are caused by faulty feeding, unsanitary surroundings, etc.

Symptoms

These are not of great value in determining the presence or absence of white

diarrhea. The chicks begin dying usually within 48 hours after leaving the egg. After the chicks reach the age of two weeks they are not so susceptible. The course of the disease is very short, the death rate being from 30 to 90 per cent. Many of the chicks show a white discharge from the vent. A large number may not have any diarrhea whatever. The birds are listless and "droopy." The most important thing to remember is that if you are losing a large number of chicks and they are under two weeks old, there is a chance of its being infectious white diarrhea. One cannot identify the disease by examining a dead chick. Therefore—**send one or two of the sick or dead chicks** to the Veterinary Division, University Farm, St. Paul, for examination. This service is free. Take advantage of it. No one can do more than guess unless it is taken to a laboratory.

What to Do

First, remember that there is no recommended cure for this disease. Neither is treatment desirable for the sick ones. It is best to destroy the affected ones at once. If it is at all possible, remove the chicks to other clean quarters. **Keep in mind** that after the disease begins to spread, the germs are in the droppings of the sick chicks. Thus it is very easy for infected chicks to spread the disease to other healthy ones.

Scald all the drinking and feeding utensils. **Do this daily.** Disinfect the premises with a 5 per cent solution of any **good disinfectant.** Use potassium permanganate in the drinking water. Make up fresh solutions at least once a day. Add enough of the potassium permanganate to the water to give it a good, deep wine color. **When the solution begins to turn brown—throw it away.**

It would be well also to determine whether you have introduced the disease through the purchase of infected day-old chicks or whether you have infected adult fowls whose eggs are carrying the germs. If you are in the habit of purchasing your hatching eggs, try to secure them from a flock where this trouble has not occurred.

Before filling the incubator, carefully disinfect the trays. Then set them out and give them a good sunning.

When the hatch is completed, separate the chicks into as small groups as possible for the first two or three days only. After this time the danger from white diarrhea grows less. If the chicks survive the first week, they are more resistant to the infection and after three weeks are comparatively safe.

Sometimes the use of **sour milk** seems to have a beneficial effect in helping to control an outbreak. **Sanitation** is the all-important thing. Clean up and then **keep clean.** There are no specific medicines that will cure this disease.

To prevent this disease it is a good plan to have all the adult stock, especially the breeders, tested. The old infected birds act as carriers and lay infected eggs. Therefore, if we have our birds' blood tested and sell those which are infected, we stand a good chance to escape this plague. The Veterinary Division at University Farm will do the test for you. If interested, write the University for instructions and vials for the blood samples. The test is reliable and will be widely used.

COCCIDIOSIS

After the chicks have successfully weathered the first three or four weeks of their lives, the next thing they have to contend with is a disease with a long name and a high death rate. It is becoming more common each year.

The digestive tract is affected in this disease. The old birds are very rarely affected, but may transmit it to the young birds. The cause is a very small organism, or protozoa, which lives in the intestines and is spread about the yards through the droppings of the sick birds, Figure 7.

Chicks from two weeks to eight weeks old are the most susceptible. After this time the losses from this disease are of no account. They may become infected by picking about in the soil which has become contaminated with the droppings of an older infected hen or through some young stock purchased from another farm.

The germ **enters with the food and water** and is carried down into the intestines where it multiplies. This sets up an inflammation of the intestines, which in turn produces a **bloody diarrhea.** This is a characteristic symptom.

The birds **drink a lot** and usually become **drowsy.** Death follows in a few hours after the disease develops, or there is a chance that the chick will recover and **become a carrier.** By this we mean that it does not die itself but carries the germs around in its body and may give them off to infect other birds.

When examining a dead chick and this disease is suspected, look over the intestines carefully. They will be found to be very much reddened and the caecum, or "blind gut," will be enlarged or swollen and filled with material of bloody nature.

This in itself, together with the fact that the birds are about a month old, is often sufficient evidence to make a positive diagnosis. However, to be sure of yourself, send one to the laboratory for examination.

Differs from White Diarrhea

Keep in mind that white diarrhea occurs during the first few days of the chick's life while coccidiosis usually appears after the chick reaches two to four weeks of age. Then, too, the enlarged caecum and the bloody diarrhea are characteristic of coccidosis.

Treatment

The treatment of coccidiosis is not as satisfactory as it might be. As in most chicken diseases the best treatment is sanitation and separation or destruction of the sick birds—**but**—we have found that the exclusive feeding of sour milk or buttermilk has a very favorable effect in retarding the progress of this disease. The only reason we can ascribe to this is that the parasite does not thrive in a medium which is strongly acid. **Take away all other food** and feed this alone until the deaths have ceased and the birds appear better, after which they may gradually be put back on their regular diet.

We have found this treatment of value. It is worth trying. The food value is there if it should fail otherwise.

Drugs are not of value in the treatment of coccidiosis. Carefully destroy all

Figure 7. These birds were suffering from coccidiosis. The trouble starts at about this age and continues to six or eight weeks of age.

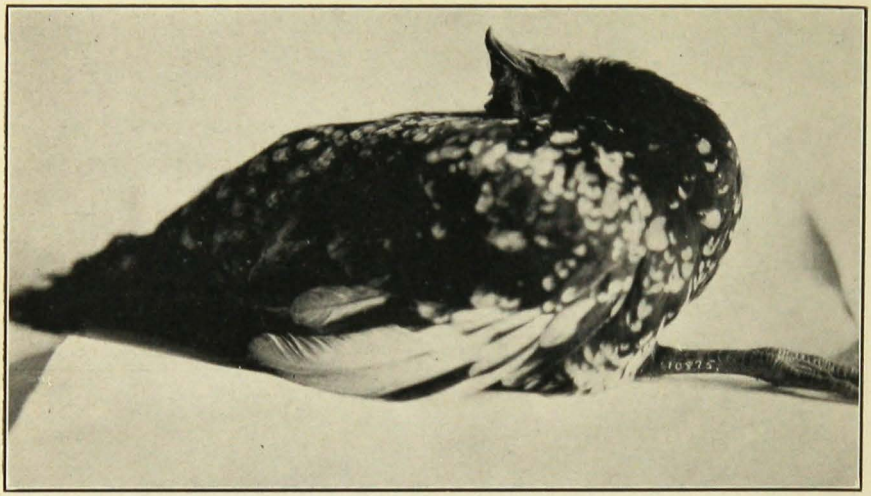

Figure 8. This is a case of limber-neck. The neck muscles are paralyzed. A good dose of castor oil may put her on her feet.

the dead birds. Clean up and disinfect the premises as advised in handling white diarrhea and use potassium permanganate as before described.

LIMBER-NECK

Limber-neck is the common term for food poisoning in fowls. The bird appears to have a broken neck. The cause is usually attributed to the eating of spoiled food, rotten canned goods, maggots, etc. Do not feed raw meat and allow it to spoil in the hen house. This disease should be distinguished from leg weakness or paralysis. In limber-neck the bird loses control of the muscles of the head and neck, Figure 8. Later on the paralysis may spread to the legs if the bird lives long enough.

The treatment consists in removing the cause if it can be discovered and administering a laxative. Castor oil is best. Give the bird a dessert-spoonful. If not too far gone this will cause the poisonous substances in the intestines to be removed.

POULTRY PARASITES

Body Lice

Body lice are a very **unnecessary luxury.** There are too many people who think that just a few lice "won't do 'em any harm." A lousy flock will not break production records. Experiments show that **sodium fluoride** is the best thing we know of to destroy lice, Figure 9. It is a fine, white powder and can be purchased from most drug stores. One application will entirely rid the birds of lice. The "pinch method" is probably the best way to use the drug. Place a pinch of the powder next to the skin on the head, neck, back, breast, at the base of the tail feathers and on each leg. One pound should be enough to treat about 125 hens. Do the work well. This treatment is very efficient, but in extreme cases it may be necessary to repeat the dose in two or three weeks. **This chemical is also sure death for cockroaches and red ants.**

Red Mites

The mites "work while you sleep." The common red one sleeps during the day in the cracks and crevices of the hen house and at night comes out of his den and attacks the birds. **They may be easily destroyed. Clean out the house first.** Commercial **carbolineum** is the most reliable spray to use. If you cannot secure this, the next best is **crude petroleum,** Figure

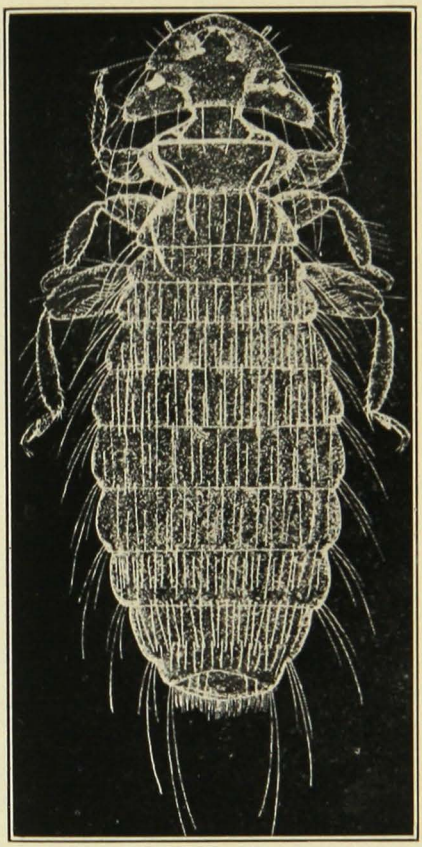

Figure 9. This is a chicken louse. The louse census has never been taken. It would be an eye-opener. Lice indicate carelessness.

10. Whichever one of these two chemicals you buy, a quart of kerosene to each three quarts of the other may be added if the solution is too thick. Both carbolineum and crude petroleum are heavy liquids and the addition of kerosene makes them work more freely in a pump. This solution will retain its power to kill for weeks and months. Apply this solution with a powerful spray pump, or if this is not available, a brush will do. A pump will drive the oil into the cracks better. Keep the birds out of the building until the solution has had time to soak into the wood, and the fumes have evaporated. Spray the walls, ceiling, roosts, and also

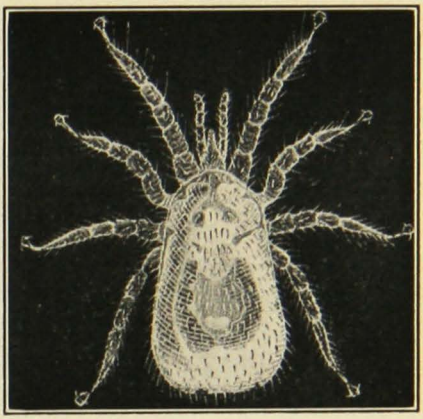

Figure 10. This wicked looking animal is the chicken mite or poultry bed bug. They work while the hen tries to sleep. Don't feed mites.

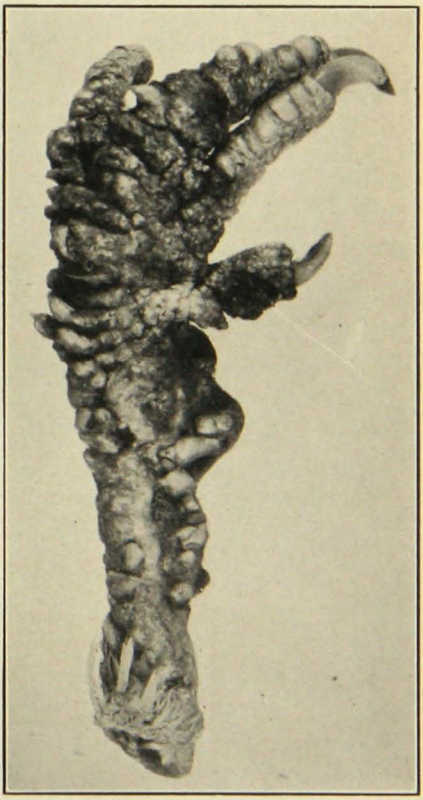

Figure 11. This foot is affected with scaly leg. This is really "foot and leg" mange. It is caused by a mite which burrows under the scales. The treatment is to kill or cure.

the floor of the house. If necessary, apply again in about a month.

Scaly Leg

Scaly leg, as this condition is commonly called, is caused by a minute parasite belonging to the class of mange mites. It is contagious. The mite burrows down deep under the scales of the feet and legs. After they become numerous they force the scales out and cause the characteristic appearance, Figure 11. If the bird affected is a scrub hen, cut its head off before it has a chance to infect others. Otherwise this condition is easily relieved if the outer dead scabs and scales are first removed. Soak the feet in warm water and scrub with soap. Remove the scales by scraping with an old knife in an operation similar to scaling a fish. When clean, apply tincture of iodine or kerosene to the affected parts. Remember, the mites are deep under the scales and these must be first removed before applying the kerosene.

Flesh Mites

Flesh mites or connective tissue mites are very commonly seen in Minnesota. They rarely cause death and most people who see them do not know what they are.

They are most often seen as white, oval, cucumber-seed like bodies under the skin of the breast, legs and neck, Figure 12. They may be present in large numbers or just a few. Ordinarily the mite (this is not the common red mite) lives on the outside, but when it dies under the skin, a white deposit forms on it and acts as a preservative. These are sometimes thought to be a sign of tuberculosis.

These parasites are not harmful except when present in great numbers.

Gapes

This is a parasitic disease of young chicks but the flocks of Minnesota have the good fortune to be comparatively free from it. The writer has never seen it in this state. However, it is reported many times each spring because the general impression is that whenever a little chick yawns—it must be the gapes. The disease is caused by a small worm or worms which attach themselves to the inside of the windpipe. Hence they irritate, and if numerous, interfere with breathing and may cause death. To be sure your birds have gape worms, destroy one and examine the inside of the windpipe for worms. The worms are reddish in color and about an inch long. These worms, together with the eggs, are coughed up and thus the water and soil become infected so that the other chicks can take them in with their food and drink. The eggs and embryo are swallowed and hatch out in the gullet and then work their way into the windpipe.

The treatment usually practiced is to snare them out with a horsehair. Various

Figure 12. Note white seed-like bodies under the skin. This is not tuberculosis. It is the remains of the connective tissue mite. They are usually considered harmless.

fumigating agents have been tried with indifferent success. Chicks should be kept off infected yards for at least one season. Older birds may be infected but this does not bother them much. Only the young chicks suffer from them fatally.

INTESTINAL WORMS

Round Worms

These are the common variety which most poultry men are familiar with. They measure from one to four inches in length, are white in color with pointed ends. Just a few worms probably do little harm, but large numbers usually cause death. Keep in mind that they are contagious and cleanliness in house and eating and drinking vessels should be practiced. The symptoms of worm infestation are of little value. The birds become unthrifty and emaciated. To be sure—open one, go through the intestines with a pair of sharp, pointed scissors. If large numbers are found—start clean-up measures.

Tobacco dust added to a dry mash in the proportion of one pound of the dust to fifty pounds of mash and fed daily for two or three weeks is as effective as any remedy for the removal of round worms.

Repeated doses of epsom salts at the rate of one pound to each 100 birds have been found beneficial also. By repeated doses is meant every ten days for about three times.

Tape Worms

Fortunately this species of worm is not as common as the round worm. These worms are "linked" segments and often reach ten inches in length. When upon examination you try to remove them from the side of the intestine they usually break because their heads are buried deep in the wall. Both tape and round worms produce millions of eggs and these pass out with the droppings to infect other birds later on.

The treatment for these worms is not entirely satisfactory. Turpentine is most often recommended. It must be given in individual doses of about one teaspoonful per bird. When given through the mouth it should be mixed with an equal amount of olive oil.

Caecum Worms

These are small thread-like worms about three-fourths inch in length. They are found principally in the caecum, or "blind gut." Ordinarily they are not considered very harmful. Most birds have them and do not seem inconvenienced. Some poultrymen call them pin worms. Whenever treatment is attempted, the tobacco treatment is used.

OTHER COMMON AILMENTS

Leg Weakness of Chicks

This disease is very likely caused by an unbalanced ration which is low in mineral content and a scarcity of green stuffs. Contributing causes are lack of sunlight and not enough exercise. The addition of a sprinkling of precipitated calcium phosphate to the mash will take care of the mineral shortage. If they are kept in dark quarters—let them out in the sunshine for a few hours each day if possible. Sunshine, minerals, green stuff and exercise will prevent and help to cure this trouble. Do not allow a sick paralyzed chick to remain with the others. They will attack it and form bad habits which, if once learned, are hard to control.

Egg Bound

It sometimes happens that hens or pullets get themselves in such a fix—that is, the egg is completed but is of such size that it cannot get through the passage. To ascertain this the abdomen of the bird must be felt carefully and then introduce the fingers into the oviduct and attempt to reach the egg. Usually this can be done. When this is done, it is a comparatively easy matter to break the egg by the introduction of some small, blunt instrument into the oviduct. The broken egg then passes out naturally or can be removed with the finger.

Prolapse of the Oviduct

This may be induced by heavy laying or chronic constipation. It is easily recognized by the sight of this raw mass where the vent ought to be. Decide at once what you are going to do. Either destroy the bird or remove it from the flock for treatment, Figure 13. If allowed to remain with the flock the others will pick it and you will have an epidemic of cannibalism on your hands. Treatment can

Figure 13. Prolapse of the oviduct through the vent. This is quite common in large, heavy layers.

be attempted after first washing off the protruded portion with warm water. Grease with olive or sweet oil and then carefully push it back until you have it replaced. If the bird is constipated give it a dose of castor oil—a teaspoonful should be enough. Feed lightly and if it recurs, repeat the operation. Keep the bird in a clean coop. This trouble seems to be more common in heavy laying flocks. If plenty of green stuff is fed and the flock given a dose of epsom salts every three or four weeks this can be avoided.

Bumblefoot

This is a swelling on the ball of the foot and may resemble a corn or abscess.

Figure 14. This condition is commonly called "bumble foot." The foot is swollen, with an abscess or core in the center of the pad.

Whatever the immediate cause may be, an injury to the foot takes place and infection follows, Figure 14. High perches and rough floors are sometimes given as causes, altho this is doubtful. When the abscess or swelling has come to a head, it should be opened with the point of a sharp knife and the pus removed. Swab out the cavity with tincture of iodine and return the bird to the flock.

Vent Gleet

This is an uncommon trouble, but whenever a bird becomes "pasted up behind"—no matter what the cause might be—this disease is often diagnosed. Vent gleet is often contagious and is simply an inflammation of the cloaca. It might be termed venereal disease of poultry. The vent becomes swollen and droppings are expelled often. The discharge is usually watery and soon the feathers about the vent become pasted together and ill smelling.

For treatment, if in only one bird, I would suggest that it be destroyed. Remove the roosters from the flock while the disease is in progress. If the bird is valuable and individual treatment is needed, first remove the affected bird

from the rest of the flock. The feathers about the vent should be clipped and cleansed. Give the bird an injection of warm water and after that, wash out the cloaca with a weak solution of potassium permanganate (just a small pinch in a quart of warm water). Grease the vent with vaseline. Repeat treatment as often as necessary.

Crop Bound

Occasionally a bird overloads the crop with dry grasses or a mixture of grass and grain to the extent that movement ceases, and the bird appears noticeably distended in the region of the crop. If allowed to stay there the mass becomes foul smelling and will cause inflammation of the crop and neighboring skin and the whole area will at times become a diseased mass which will result in death.

Usually if taken early the crop may be massaged, and if water is introduced, loosened so that it will pass off naturally. If this is not a success, take a pair of scissors, and after removing a few feathers, cut through the skin and into the crop. Empty the contents with a spoon—wash it out and sew it up again. The operation is simple, and if done early, should be a success. Feed lightly for the next few days.

Constipation

This trouble is not a serious one but is seen often enough to warrant mention. It is probably caused by lack of exercise in too small quarters and a ration containing little or no succulent feeds. To remedy this, one may administer epsom salts or castor oil. If the treatment is applied to the entire flock the epsom salts will be found the most efficient. The dose is one pound for each 100 birds. Dissolve the salts in water or milk and give before the morning feeding. For dosing one bird, however, castor oil will be found best. Use about a teaspoonful per bird.

Pendant Abdomen

Birds of the heavier breeds often develop an abdomen so large and heavy as to drag on the ground. In this case the feathers are rubbed off and the skin may be reddened and sores are often the result. One occasionally find but a few in a flock affected this way. There is a large accumulation of fat under the skin of the abdomen, sometimes two or three inches in thickness. Individual treatment, of course, is impractical, but the amount of fat-forming foods should be cut down for the entire flock.

When culling a flock, it is thought best to remove this type of bird. If not, at least it should not be used for breeding purposes.

Feather Eating, Egg Eating and Cannibalism

These are simply bad habits and if an individual bird becomes a chronic offender the best and surest cure is the hatchet. The habit in itself is not particularly harmful to the bird, but is annoying to the owner and may be fatal to other birds. When a feather-eater is first noticed destroy it at once for this will prevent others from learning the habit. Close confinement, lack of exercise and too little variety of food may be the causes. It is said that exhibition birds may develop the habit.

Comb picking is another vicious habit. It may begin from an accidental injury to the comb—blood flows and other birds are attracted. After tasting blood, they seem to crave more. Other birds notice this and soon the bird with the injured comb becomes the center of attention. Unless the bird is removed, the whole comb may be eaten away. When first seen is the time to act.

The egg-eating habit probably begins when eggs are accidentally broken and left about the house and yards. In this way a taste for raw eggs is acquired and many hens may become regular egg eaters—eating their own and other eggs. The moral is—don't allow broken or cracked eggs to lie around. Feed plenty of oyster shells. Provide dark nests.